

A description will now be given of another form of the holding means, with reference to FIGS. 12 and 13. These figures show a form of the holding means of the speakers 30 and 31 of FIGS. 1 and 2.

The holding means 150 makes use of magnetic attractive force. As shown in FIGS. 12 and 13, the speaker 31 (and the speaker 30) each have protrusions 134 with two iron portions 134A and 134B, between which two iron portions 134A and 134B is provided a magnet 134C. (The protrusions 135 of the speakers 30 and 31 have the same structure.)

As shown in FIGS. 12 and 13, an iron plate 44 is disposed in the recesses 44 at the left side 22 and at the right side 23, of the display portion 3. (An iron plate is similarly disposed in the recesses 45 at the left side 22 and at the right side 23.) Bringing the iron portions 134A and 134B of each protrusion 134 causes the associated iron plate 44A of each recess 44 to be magnetically attracted to the associated iron portions 134A and 134B of each protrusion 134. (This also applies to the iron portions of each protrusion 135.) This allows the speakers 30 and 31 to be removably secured to the display portion 3.

A description will now be given of still another form of the holding means, with reference to FIGS. 14 and 15.

FIGS. 14 and 15 correspond to FIGS. 12 and 13. The holding means of FIGS. 14 and 15 also makes use of magnetic attractive force. The structure of the recesses 44 and 45 of the display portion 3 is substantially the same as the structure of the recesses 44 and 45 shown in FIG. 12. However, there is a slight difference in the structure of the protrusions 234 and the protrusions 235 of the speaker 30 and 31. In the structure of FIGS. 14 and 15, a magnet 234C is disposed between the iron portions 234A and 234B of each protrusion 234. (A magnet is also disposed between the iron portions of each protrusion 235.) The speaker 31 has resin portions 31D, which protrude at the outer sides of the iron portions 234A and 234B. (The speaker 30 also has similar resin portions.)

The resin portions 31D are positioned at the outer sides of the iron portions 234A and 234B of each protrusion 234. The amount of protrusion of the protruding resin portions 31D is greater than that of the iron portions 234A and 234B at the outer sides, by an amount equal to E. As a result, the resin portions 31D of each protrusion 234 hides and protects the iron portions 234A and 234B of each protrusion 234. Consequently, even when the speakers 30 and 31, which have been removed from the display portion, are placed on, for example, a desk, the iron portions 234A and 234B of each protrusion 234 do not directly contact the desk, thereby preventing them from magnetically and electrically affecting other devices.

A description will now be given of another form of accessory mounting in accordance with the present invention, with reference to FIGS. 16 to 18.

In FIG. 16, the speaker 31 is mounted to the right side 23 of the display portion 3, whereas another type of accessory, such as a portable telephone, is mechanically and electrically connected to the left side 22 of the display portion 3 so that the portable telephone can be removed from the left side 22. The accessory 330, such as a portable telephone or a radio device, has protrusions 334 and 335 as well as a protruding electrically connecting terminal 333. The protrusions 334 and 335 can be mechanically fitted to and held by their respective recesses 44 and 45 at the left side 22 of the display portion 3, and the electrically connecting terminal 333 can be electrically connected to the electrically connecting terminal 43 at the left side 22.

In the example of accessory mounting in FIG. 17, a stereo microphone 400 is mounted to the top side 21 of the display portion 3, in addition to the speakers 30 and 31 that are mounted, respectively, to the left side 22 and the right side 23 of the display portion 3. The stereo microphone 400 has protrusions 434 and 435 as well as a protruding electrically connecting terminal 433.

The top side 21 of the display portion 3 has recesses 444 and 445 as well as a recessed electrically connecting terminal 443. The protrusions 434 and 435 of the microphone 400 can be fitted to the corresponding recesses 444 and 445 of the top side 21, while the electrically connecting terminal 433 can be electrically connected to the protruding electrically connecting terminal 443.

In the example of accessory mounting in FIG. 18, an image pickup camera, such as a CCD (charge-coupled device) camera 500, is mounted to the top side 21 of the display portion 3. The image pickup camera 500 has protrusions 534 and 535 as well as an electrically connecting terminal 533. The top side 21 has, as mentioned above, recesses 544 and 545 and a recessed electrically connecting terminal 543. The protrusions 534 and 535 of the microphone 500 can be mechanically fitted to and held by the recesses 544 and 545 of the top side 21, respectively, and the electrically connecting terminal 533 can be fitted and electrically connected to the electrically connecting terminal 543.

It is to be noted the present invention is not limited to the above-described forms.

Although in the above-described forms of the holding means, such as the form shown in FIG. 11, the protrusions are shaped so that they can be snappingly fitted to their corresponding recesses, the protrusions may be shaped differently. In addition, although in the above-described embodiment a portable computer was used as the portable electronic device, other portable electronic devices, such as a portable information terminal, may also be used in other embodiments.

Further, although in the foregoing description a speaker, a camera, a microphone, and a radio device or portable telephone, were used as accessory, other types of accessories may obviously be used.

Although in the foregoing description the protrusions were formed at the accessories, such as the speakers 30 and 31, and the recesses were formed in the display portion 3, the protrusions may be formed in the display portion 3 and the recesses may be formed in the accessories.

As can be understood from the foregoing description, according to the present invention, accessories can be removably provided at external surfaces, around the display screen, of the display portion.

What is claimed is:

1. A portable electronic device, comprising:

a body;

a display portion openable and closeable with respect to said body;

holding means, provided at an external surface, around a display screen, of said display portion, for mechanically and removably holding an accessory, said holding means comprising a recess in said display portion for fitting therein a protrusion of the accessory; and

electrically connecting means for electrically and removably connecting the accessory to the display portion; and

wherein said protrusion of said accessory includes a magnet which is magnetically attracted to a metal portion of said recess of said display portion so as to